indicated by "Manual Mode" being displayed below "Airport Identification" while the system is in manual mode.

6.6.2.1 Entering a Manual Observation. From the "Operator Menu" (Figure 6.6) select "F1" for "Operator Data". The screen will change as shown in Figure 6.14, "Operator Data Menu". Select "F1" to enter a weather observation (Figure 6.19). The entry is to consist of the entire surface weather observation, including 3-letter identifier, and be formatted in accordance with FMH-1 (or -9). Only one observation per entry is permitted. Including more than one observation per entry (e.g., two SPs) will result in incorrect formatting of the observations on the Service A transmission. The maximum number of characters per observation, including spaces, is 80. Entries within the 80-character limit. Hourly (SA/RS) observations are not to be completed prior to 45 minutes past the hour nor later than 54 minutes past the hour. Examples of manual observation entries are shown in Table 6.6.

6.6.2.2 Entering a New or Changing a Manual Observation. Enter a complete new observation. Although the previous observation will be shown on the screen, there are no provisions for using the screen and keyboard to format a new manual observation from the previous observation. Also, manual observations are not to be revalidated since the times of the observations will always be different.

6.6.2.3 Voice Recording of Manual Observations. Each manual observation must be manually recorded by the observer for dissemination over the ground-air and telephone voice outlets. The OT keystrokes used for the voice recording of manual observations are the same as those used for appending a NOTAM, and reference is made to the same figures. From the basic screen (Figure 6.3) press "F1". This will result in a screen that looks like Figure 6.4. Select "F1" again for the "Operator Menu", and enter the correct password when requested (Figure 6.5). The display will then change as shown in Figure 6.6. Select "F3" for the "Voice Menu". The display will then change as shown in Figure 6.7. Select "F1" (enter voice remark) and the screen will change as shown in Figure 6.8. This display prompts to begin recording. As soon as the "F1" key is pressed, the display will change as shown in Figure 6.9 and the observer may begin recording using the microphone. Begin the recording with the time of the observation, except if the observation is a special (SP) or urgent special (USP), begin the recording with the type of observation. Note that the station location is automatically generated, and need not be manually recorded.

TABLE 6.6

EXAMPLES OF MANUAL WEATHER OBSERVATIONS ENTERED INTO THE AWOS

Hourly (SA) Observation:

UKI SA 1853 20 SCT M90 OVC 7 172/55/50/3010/004

Special (SP) Observation:

UKI SP 1932 -X M6 OVC 3RW-F 2612/023/F2

Record Special (RS) Observation with dew point sensor out of service:

UKI RS 1854 6 SCT M50 OVC 7 243/54/M/2619/025

Urgent Special (USP) Observation:

FOD USP 1945 TORNADO 5 NE MOVG NE

Example of first observation for the day:

UKI SA 1155 100 SCT 7 152/45/40/3605/998/FIRST

Example of last observation for the day:

UKI SA 0355 M30 BKN 50 OVC 7 159/48/40/3415/000/LAST

EXAMPLES:

Hourly (SA): (Location--automatically generated)...ONE EIGHT FIVE FIVE ZULU...TWO THOUSAND SCATTERED, ESTIMATED CEILING TWO FIVE THOUSAND OVERCAST...VISIBILITY TWO FIVE...TEMPERATURE THREE SIX, DEW POINT TWO NINER... WIND THREE SIX ZERO AT ONE TWO PEAK GUSTS TWO ZERO...ALTIMETER TWO NINER EIGHT NINER.

Special (SP): (Location--automatically generated)... SPECIAL... TWO ZERO THREE FIVE ZULU...MEASURED ONE THOUSAND OVERCAST...VISIBILITY ONE...MODERATE RAIN AND FOG...WIND ZERO ONE FIVE AT TWO ZERO...ALTIMETER TWO NINER NINER FIVE.

The countdown timer reflects the number of seconds of recording time remaining. The maximum length is 30 seconds. To pause, press the "F2" key. To resume, press the "F2" key again. When the message is complete, press the "F1" key. When the "F1" key is pressed or the timer reaches zero, the display will change as shown in Figure 6.10. This menu allows for reviewing the message before transmission. Selecting "F2" (review) will change the screen as shown in Figure 6.11, and then Figure 6.12. After accepting the messages, the display will return to the "Operator Menu" screen (Figure 6.6) and the manually recorded observation will be broadcast on the ground-air voice outlet and available on the telephone voice outlet.

6.6.2.4 Mandatory Updating of the Voice Recording of Manual Observations. The voice dissemination of any observation recorded prior to 45 minutes past the hour will end at 55 minutes past the hour. T e 'n u e u ated at least once an hour between 45 and 54 minutes past the hour. Failure to do so will result in no data being available on the ground-air or telephone voice outlets. Revalidation is not appropriate since the time of the observation will be different.

6.6.2.55 Updating/Changing a Manually Recorded Observations. The voice entry is changed by recording a new observation (paragraph 6.6.2.3, above). There is no need to cancel the previous manual voice recording before recording a new observation.

6.6.2.6. Cancelling a Manually Recorded Observation. From the screen shown in Figure 6.13, select "F2" (Cancel Voice Remark).

6.6.3 Setting a Channel (Sensor) In/Out of Service. If the system is being operated in the manual mode and there is a problem with a channel (sensor), the channel(s) with a problem is to be set out of service. To set a channel (sensor) in/out of service, select "F2" from the "Operator Menu" (Figure 6.6). The

screen will change as shown in Figure 6.16 (Failure Override Menu). Select "F1" "Channel In/Out", the screen will change as shown in Figure 6.17. Select the appropriate "F" key to toggle the "in" or "out" status of a channel.

NOTE: Putting a channel (sensor) out of service will cause the data for that sensor to be shown as "missing" on the screen. Also, if the system is returned to automated operation (paragraph 6.6.4, below) with a channel (sensor) out of service, the data for that parameter will be voiced as "missing" in the automated voice message, and indicated as "M" in the Service A teletype message.

6.6.4 Return to Automated Operation from Manua1 ODeratiOn. Before the system is returned to automated operation, the last manual observation entered into the system must be cancelled. This cancellation must not be less than 5 minutes after the last manual observation was entered into the system. This delay of not less than 5 minutes is to allow time for the last manual observation to be transmitted to the WMSC.

To cancel the last manual observation entered into the system, from the basic screen (Figure 6.3) press "F1". This will result in a screen that looks like Figure 6.4. Select "F1" again for the "Operator Menu", and enter the correct password when requested (Figure 6.5). The screen will change as shown in Figure 6.6. Select "F1" for the "Operator Data Menu". The display will change as shown in Figure 6.14. Select "F1" and the screen will change as shown in Figure 6.19. From this "Enter Manual Observation" screen" strike the "return/enter" (RET) key. This "null" entry will cancel the last manual observation entered into the system.

To return to automated operation, from the basic screen (Figure 6.3) select "F1". The screen will then change as shown in Figure 6.4. Select "F1" for the "Operator Menu" and enter the correct password when requested (Figure 6.5). The screen will then change as shown in Figure 6.6. Select "F5" for "System Mode". The screen will then change as shown in Figure 6.18. Select "F1" to toggle the system mode from manual to automated.

The above procedures are necessary to preclude the possibility of the last manual Observation entered into the system being picked up and transmitted as a manual augmentation weather entry along with the automated observation.

SPECIAL INTERIM PROCEDURE--APPLICABLE ONLY AT STATIONS WHICH DO NOT HAVE SOFTWARE VERSION 2.07 INSTALLED. Pending the installation of Software Version 2.07, a special procedure must

be followed at locations which do not have this software version installed. This special procedure is required to preclude a portion of the previous manual observation entered into the system from being mixed with the current manual observation. To do this, the last manual observation entered into the system must be cancelled before starting to enter the current manual observation. The keystrokes required to cancel the last manual observation are spelled out in paragraph 6.6.4, above. The installation of Software Version 2.07 began in January 1991 and is to be completed by July 1991. Information concerning the software version installed at specific locations may be obtained by contacting the Qualimetrics, Inc. telephone answering service, (916)-928-0720, Mon-Fri, 0800-1700 PST.

6.7 Miscellaneous Functions.

6.7.1 Setting the Printer Interval. The primary purpose of the printer is to provide a hard copy of archived data in the event of an aircraft incident or accident. (A printer must be transported to the site when archived data is required at an airport that is not assigned a printer.) Also, a planned system modification will make manual augmentation entries (Mode 3 Operation) and manual observations (Mode 4 Operation) available on the printer output. It is recommended that the printer be turned off at all times that the system is being operated in Modes 1 or 2, and during operation in Mode 3 when a weather observer is not on duty to make any required augmentation entries. To set the printer interval, from the "Operator Menu" (Figure 6.6) select "F4", "Print Interval". The screen Will change as shown in Figure 6.20. Enter the desired interval. Set the printer interval to 61 if a hard copy of the observations is not required.

6.7.2 Disable/Enable Automated Voice Outauts/Set Test Status. These procedures are used if it becomes necessary to take the voice ground-air broadcast, telephone voice outlet, or both out of service (or return to service if currently out of service). This menu is also used to set (or turn off) "test" status. From the basic screen (Figure 6.3) select "F1". This will result in a screen that looks like Figure 6.4 Select "F1" again for the "Operator Menu" and enter the correct password when requested (Figure 6.5). The display will then change as shown in Figure 6.6. Select "F3" for the "Voice Menu". From the "Voice Menu" (Figure 6.7) select "F2", Voice Output Control". The screen will change as shown in Figure 6.21. Select "F2" to switch the radio output "off"; select "F3" to switch the telephone "off". Repeating these procedures will switch the outputs from "off" to "on". Select "F4" to set the system in "test" status. If the system is currently in "test" status, repeating these procedures

will cancel the "test" status. Note: While the system is in "test" status, the word "TEST" is included in the voice (radio and telephone) transmissions. Also, placing the system in "test" status prevents transmission of the automated observations over the Service A network.

6.8 Archive Procedures: To enter the archive menu from the basic screen (Figure 6.3), select "F1". The screen will change as shown in Figure 6.4. Select "F3" and enter the correct password. The screen will change to the "Archive Menu" (Figure 6.22).

6.8.1 Printing/Displaying Archived Data. Selecting "F1" from the "Archive Menu" allows all or a specific number of the archived observations to be printed (Figure 6.23). Selecting "F2" allows all or a specific number of the archived observations to be displayed (Figures 6.24 and 6.25). Since data are archived at 20-minutes intervals for 96 hours (4 days), from 1 to 288 observations can be printed or displayed.

6.8.2 Locking/Freezing a 24-Hour Segment of Archived Data. Selecting "F3" from the "Archive Menu" allows the observer to lock/freeze a 24-hour segment of archive data for use later, for example, in the investigation of an aircraft mishap. A total of 72 archived observations (3 archived observations per hour X 24 = 72) will be locked into battery backed memory starting with the year/month/day/hour/minute entered into the system per the prompts on Figures 6.26 and 6.27. The 24-hour segment of data locked/frozen will remain in the system until another segment is locked into the system in place of it. Note: When the lock start time is less than 24 hours prior to the present time, only the data to the present time will be locked.

6.8.3 Printing/Displaying Locked/Frozen 24-Hour Segment. Selecting "F4" from the "Archive Menu" allows the observer to print the locked segment (Figures 6.28 and 6.29). Selecting "F5" allows for displaying the locked segment (Figures 6.30) and 6.31).

APPENDIX A

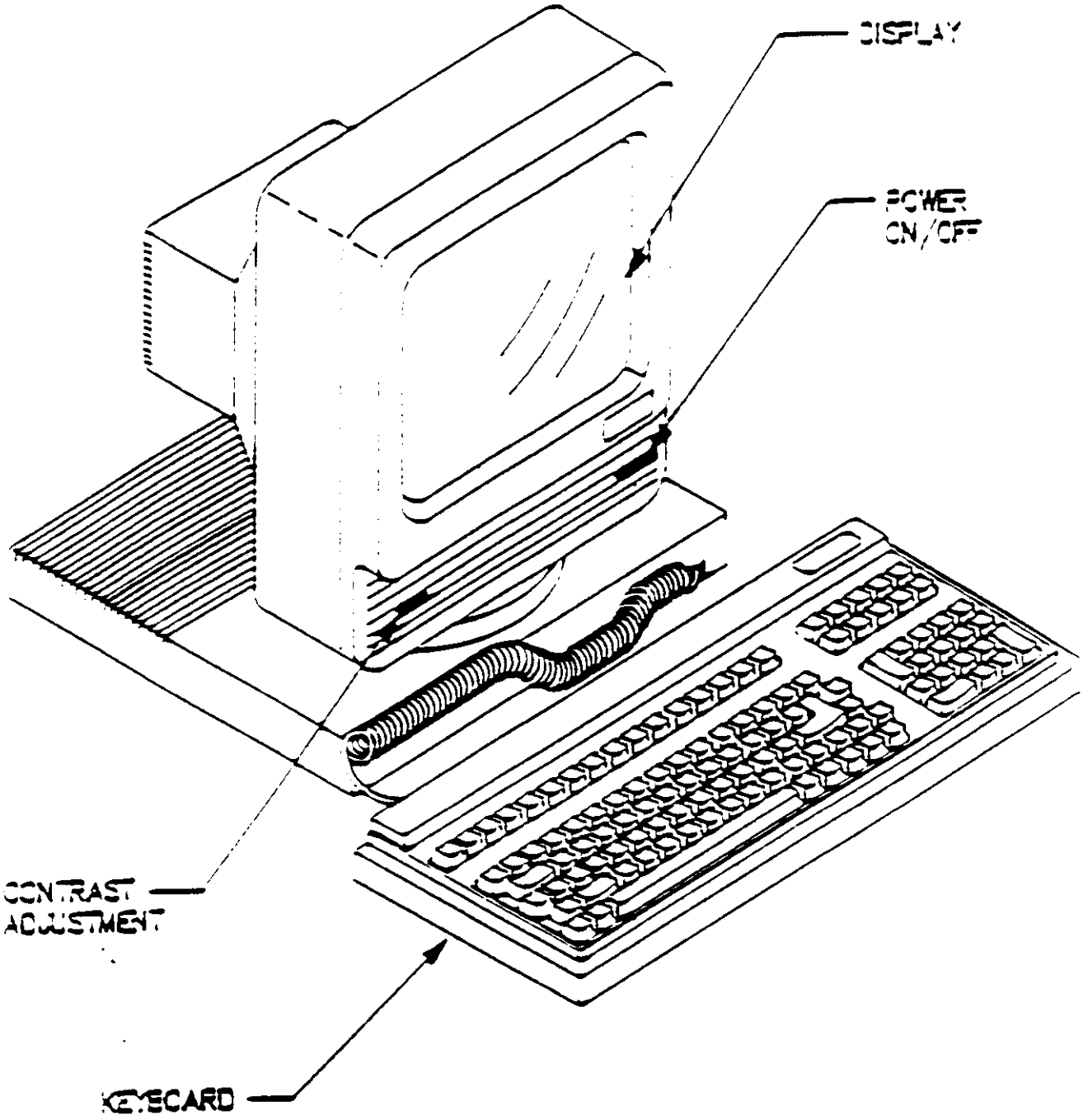

FIGURE 6.1
VIDEO DISPLAY

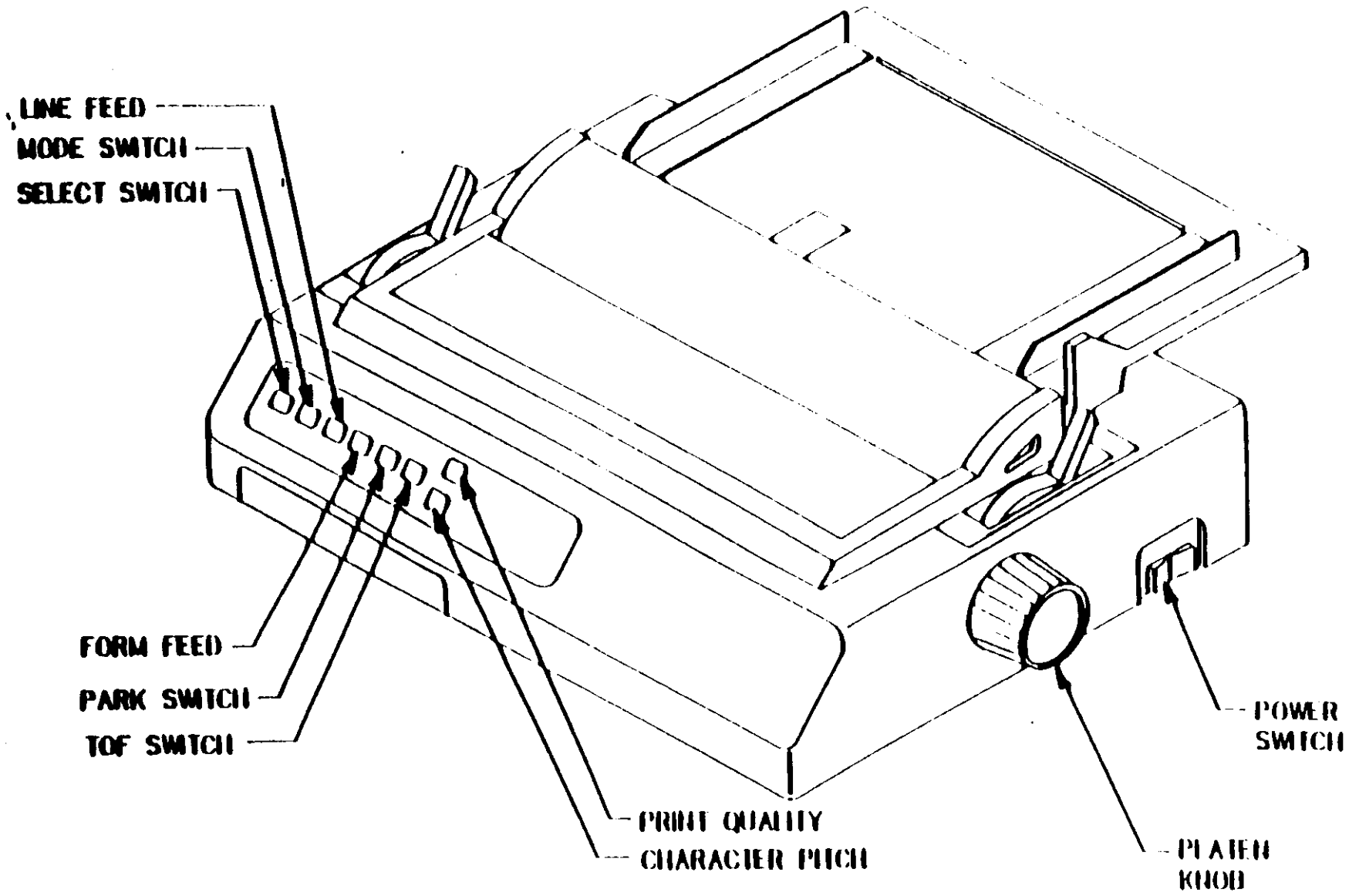

FIGURE 6.2
DIGITAL PRINTER

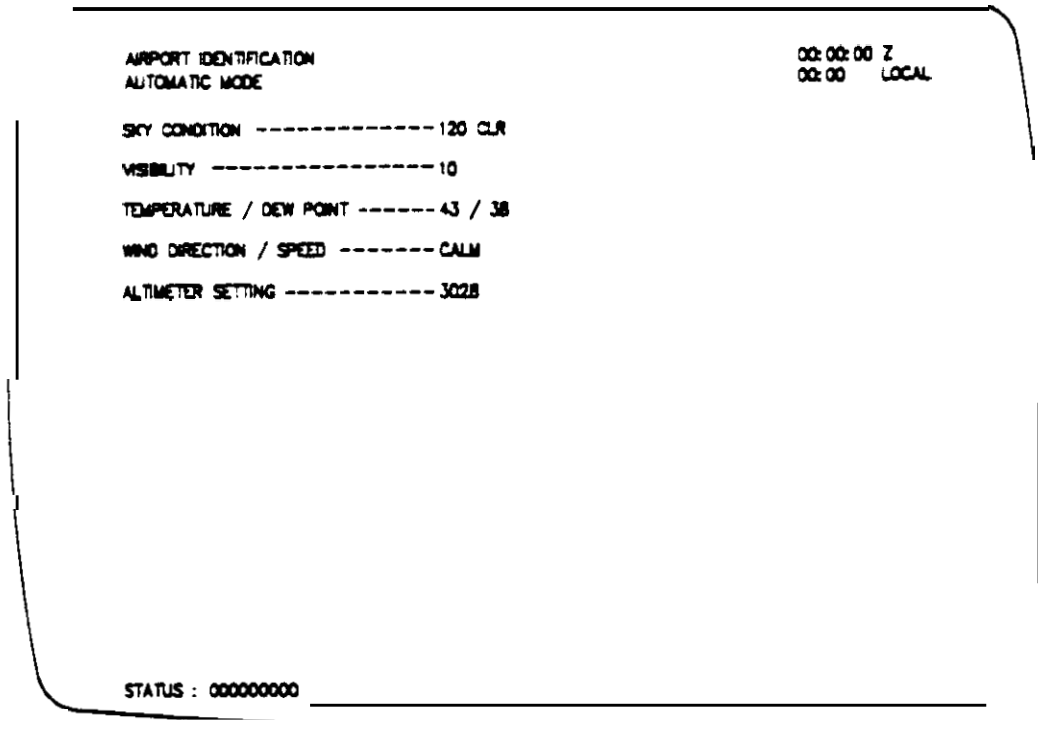

FIGURE 6-3
TYPICAL DATA SCREEN

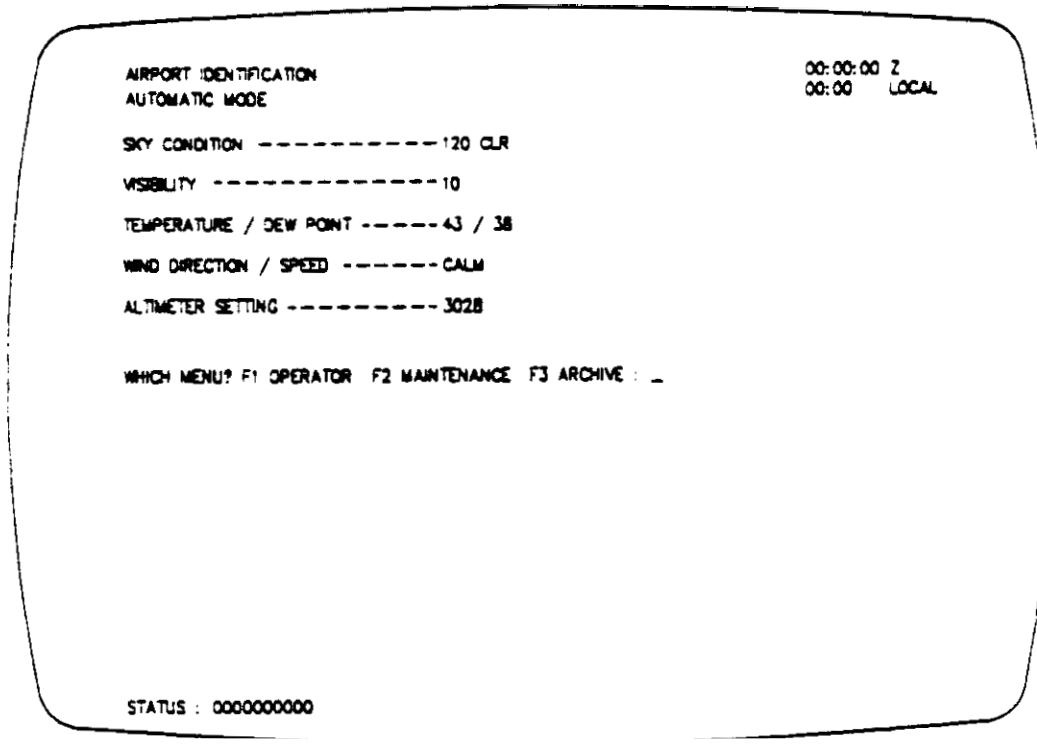

FIGURE 6-4
TYPICAL **MAIN** MENU SCREEN

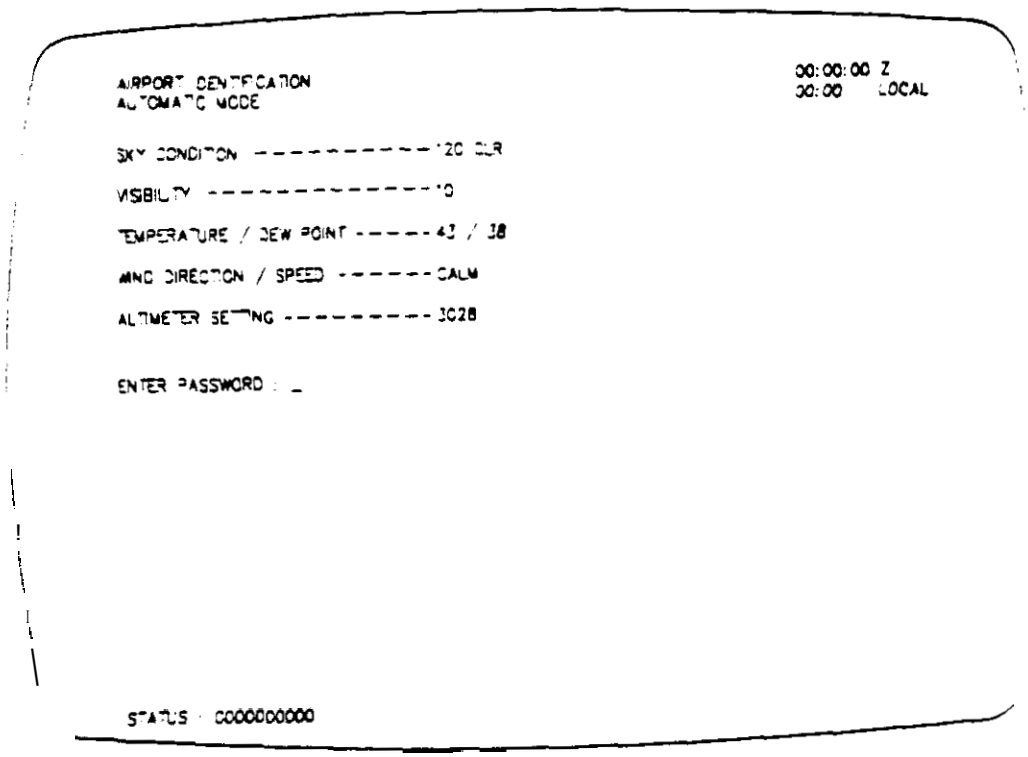

FIGURE 6-5
PASSWORD SCREEN

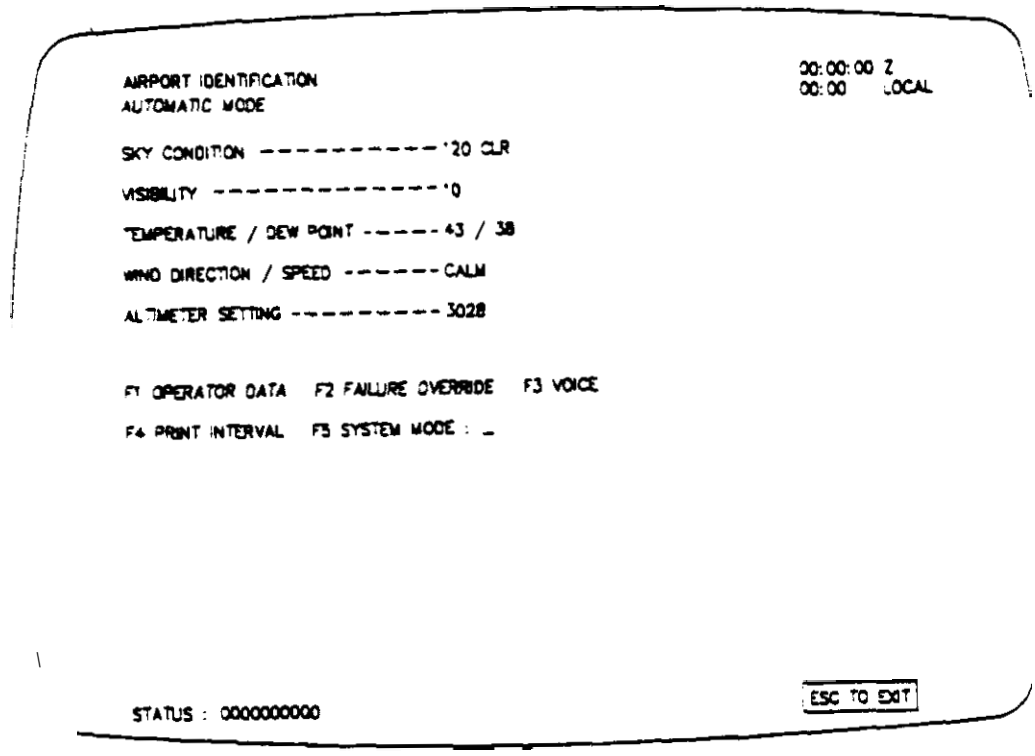

FIGURE 6-6
MAIN OPERATOR MENU

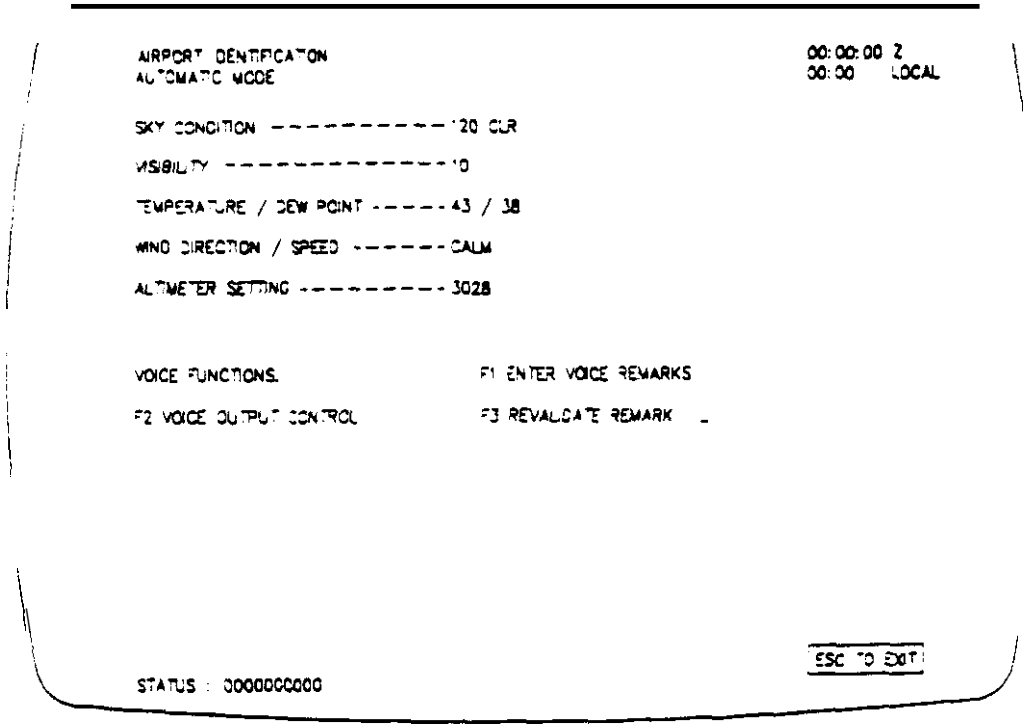

FIGURE 6-7
VOICE MENU

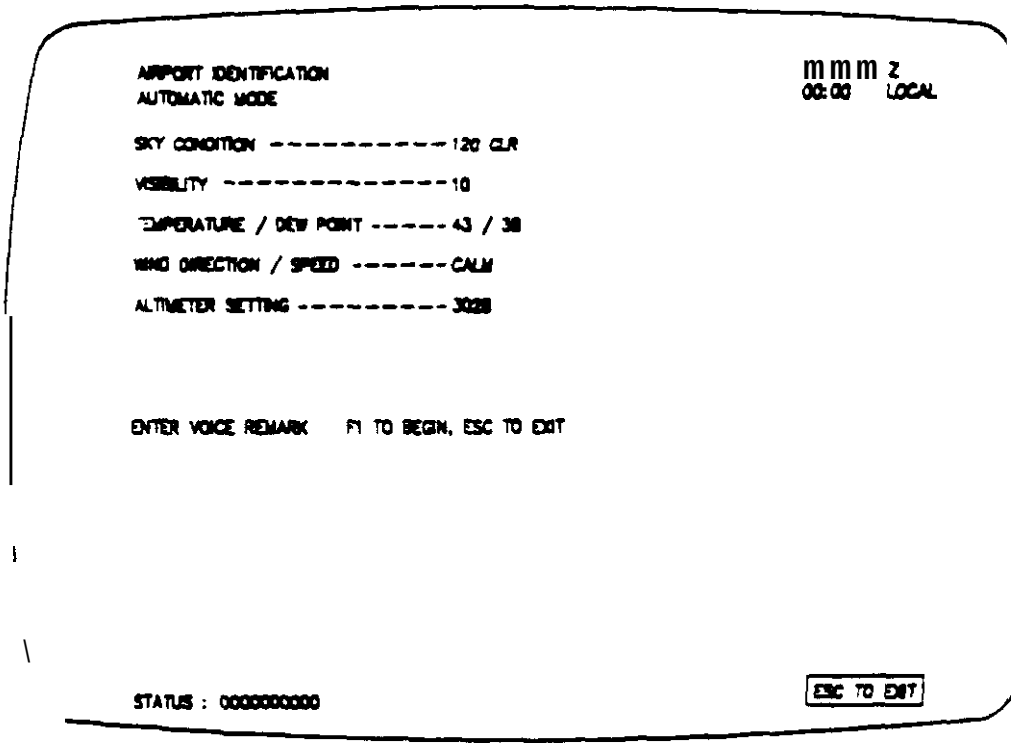

FIGURE **6-8**
ENTER VOICE **REMARKS** FUNCTION

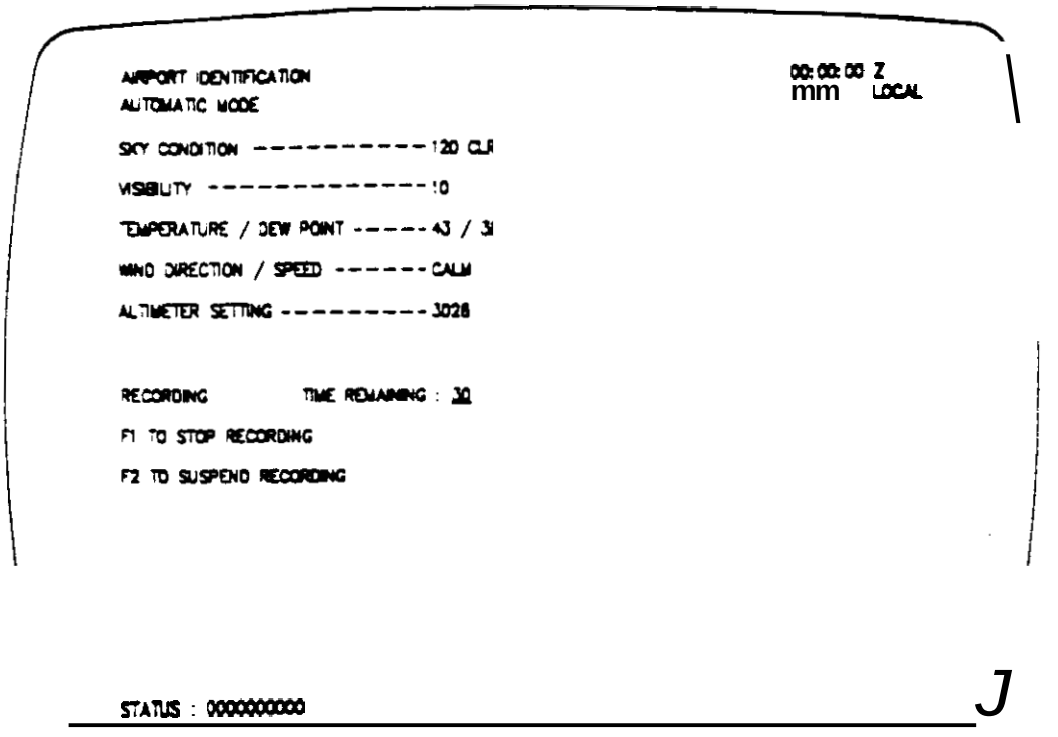

FIGURE 6-9
VOICE REMARKS FUNCTION

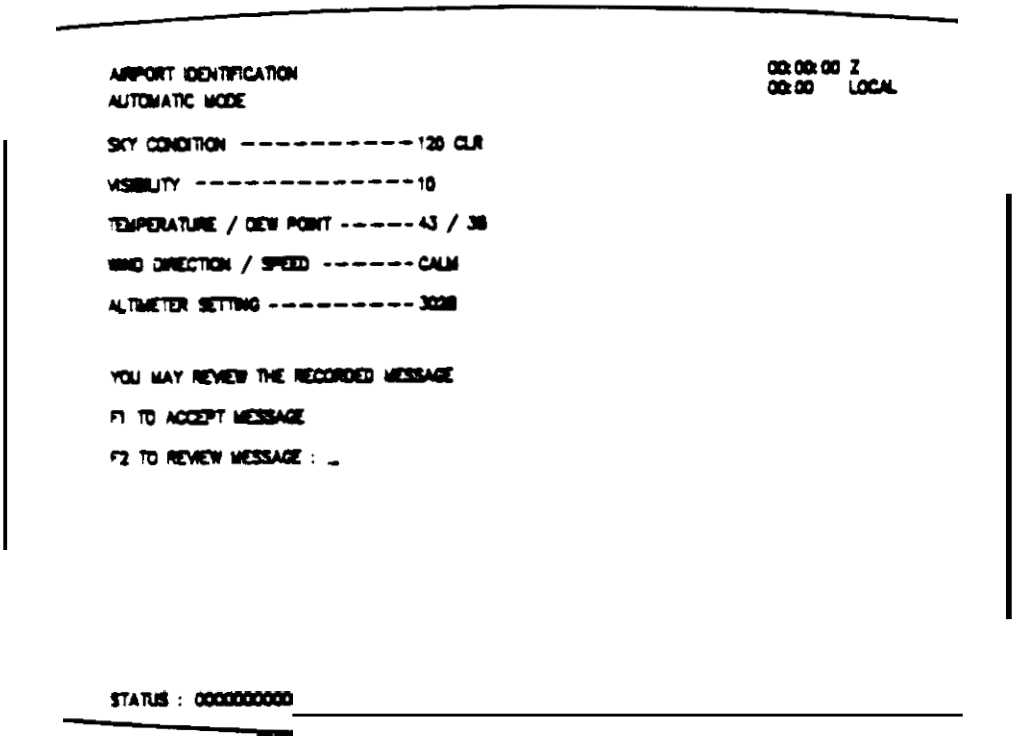

FIGURE 6-10
VOICE REMARK REVIEW FUNCTION

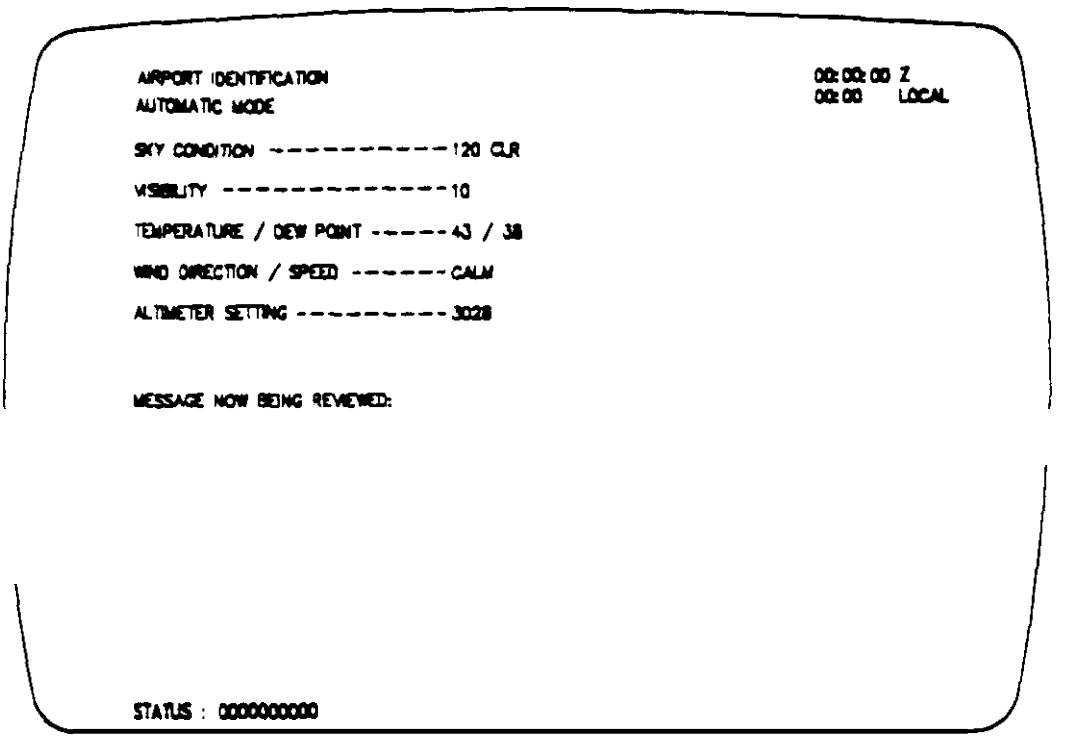

FIGURE 6-11
VOICE REMARK REVIEW FUNCTION

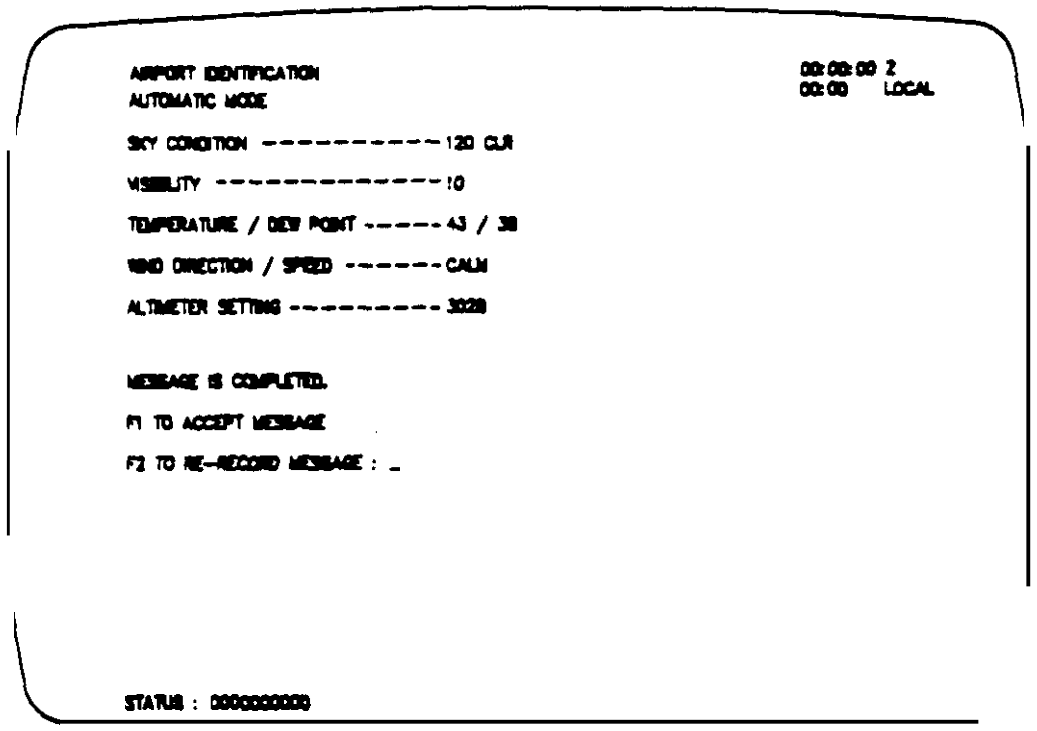

FIGURE 6-12
MESSAGE COMPLETE FUNCTION

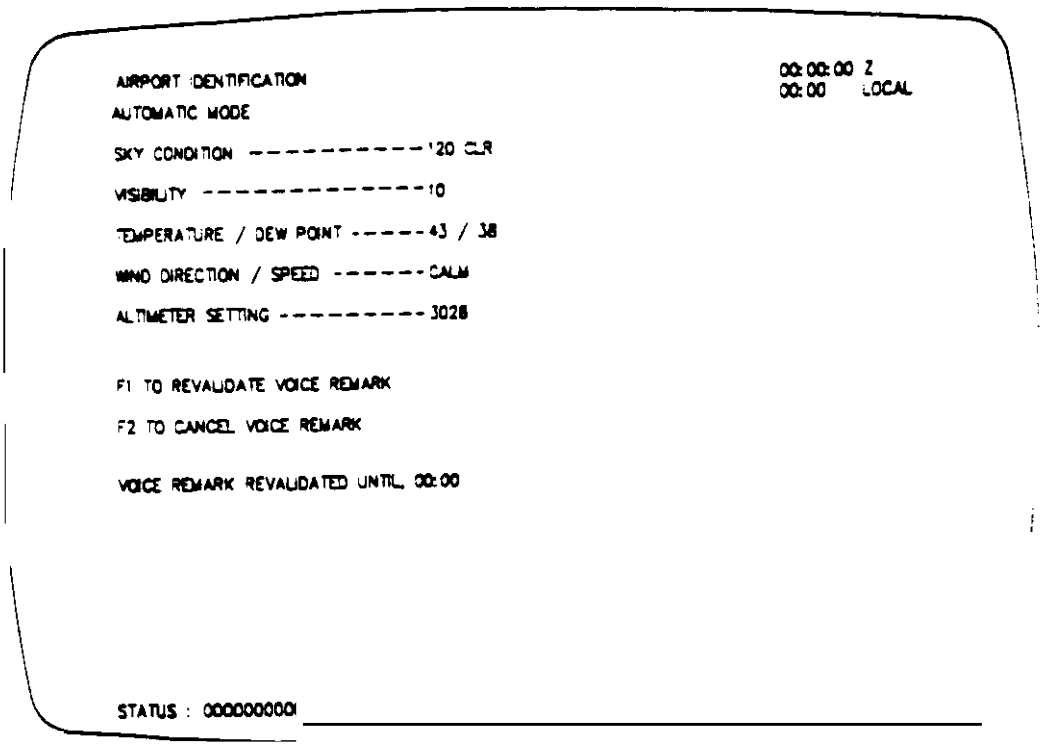

FIGURE 6-13
REVALIDATE REMARK FUNCTION

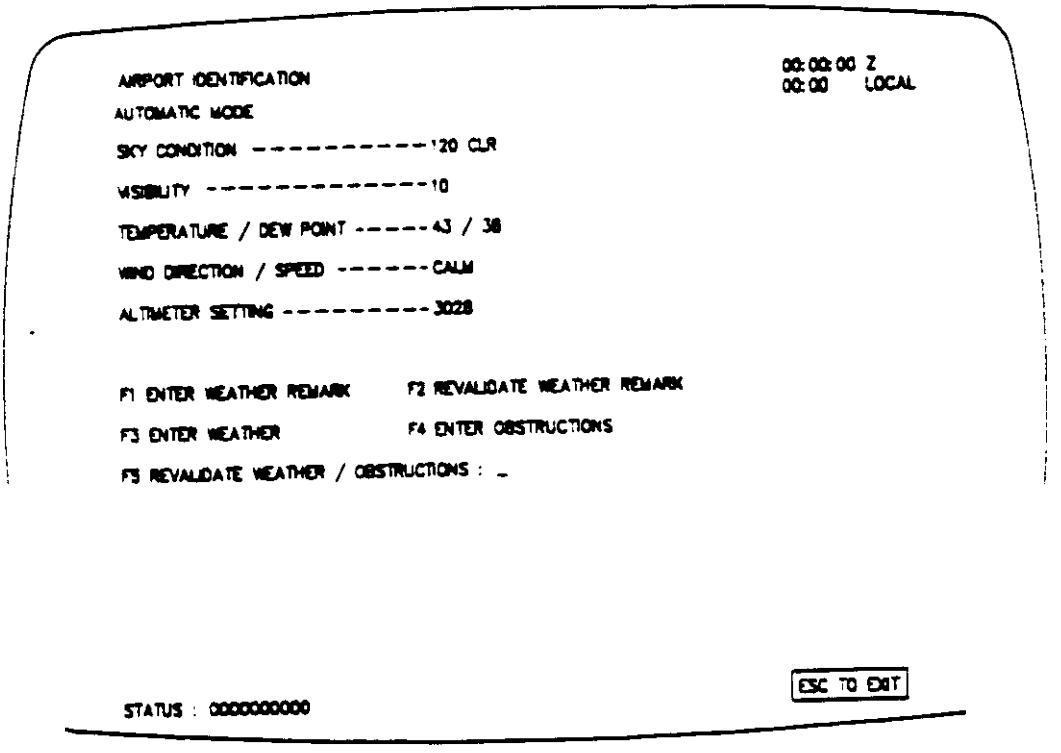

FIGURE 6-14
OPERATOR DATA MENU

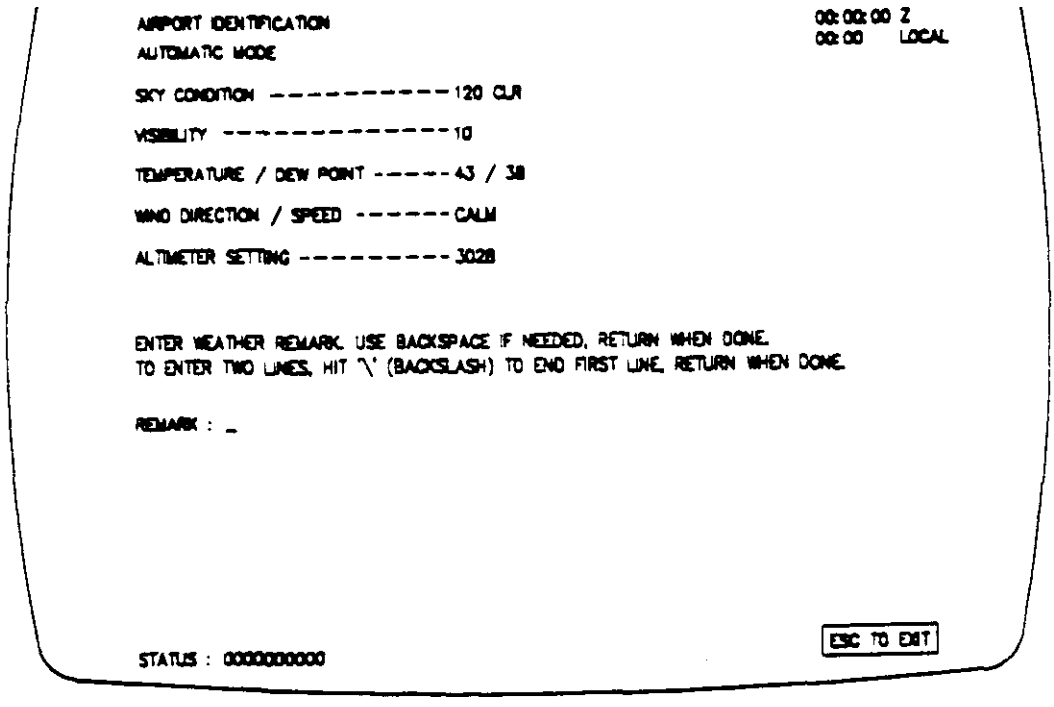

FIGURE 6-15
ENTER WEATHER REMARK FUNCTION

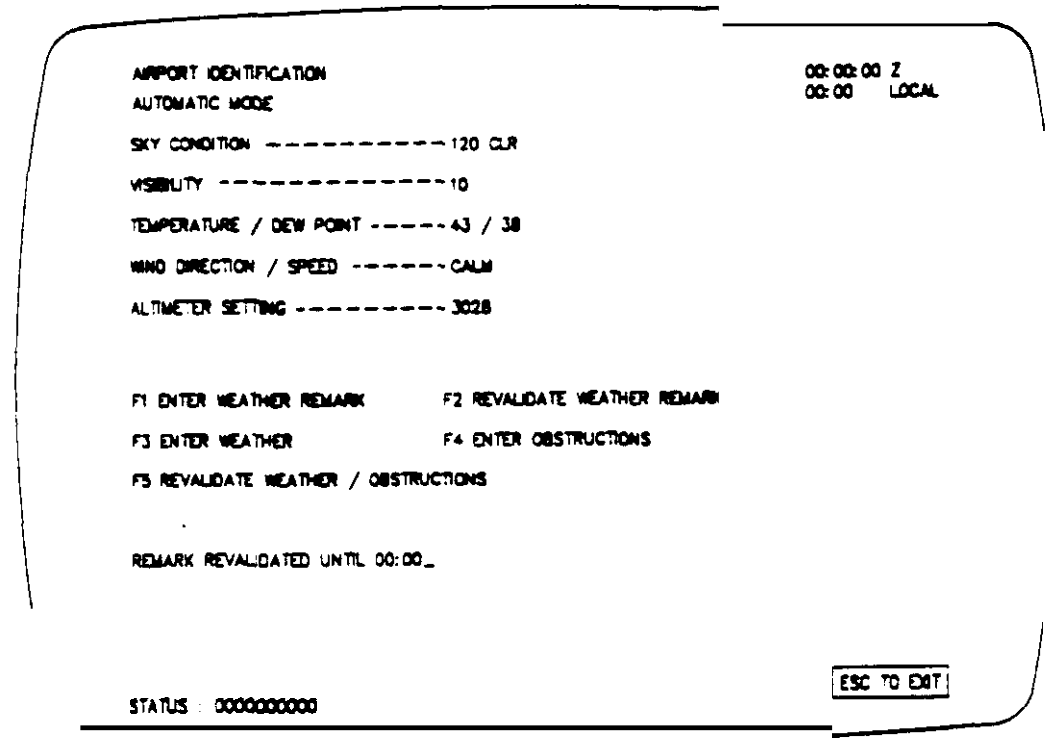

FIGURE 6-15A
REVALIDATE WEATHER REMARK FUNCTION

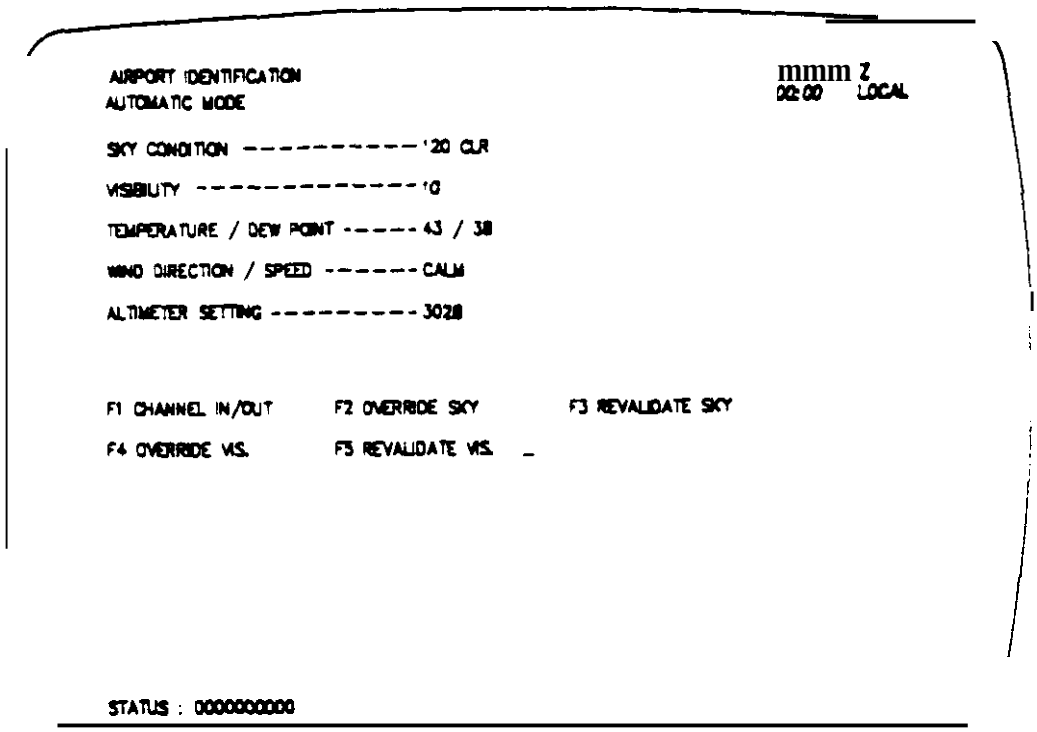

FIGURE 6-16
FAILURE OVERRIDE MENU

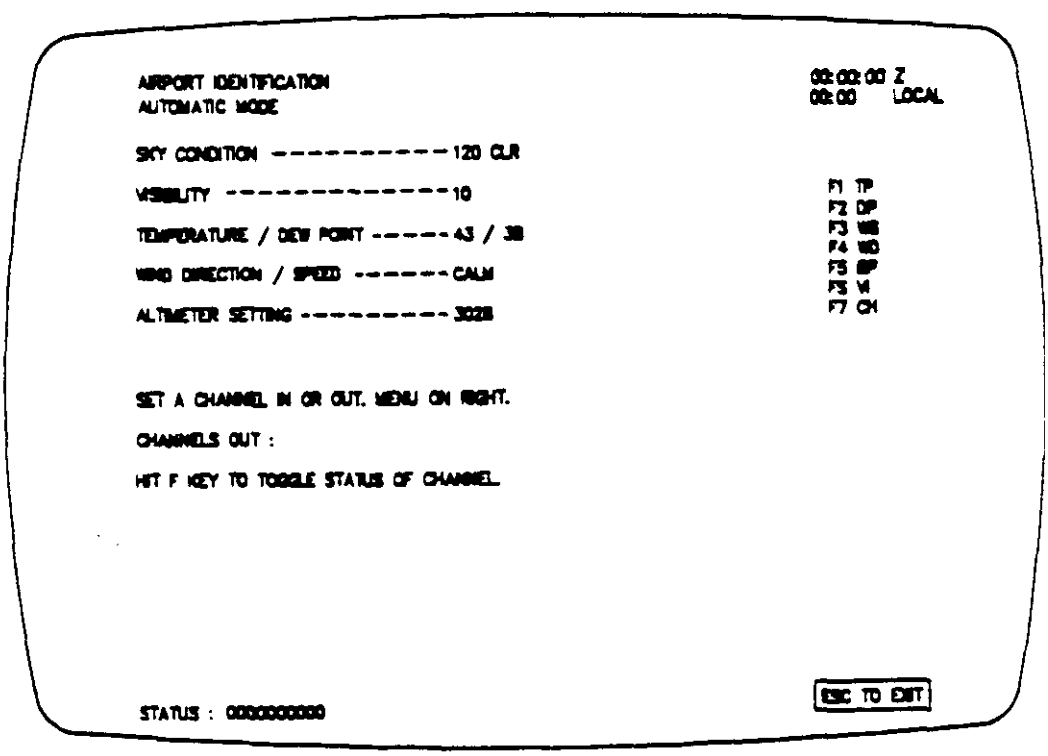

FIGURE 6-17
CHANNEL IN/OUT FUNCTION

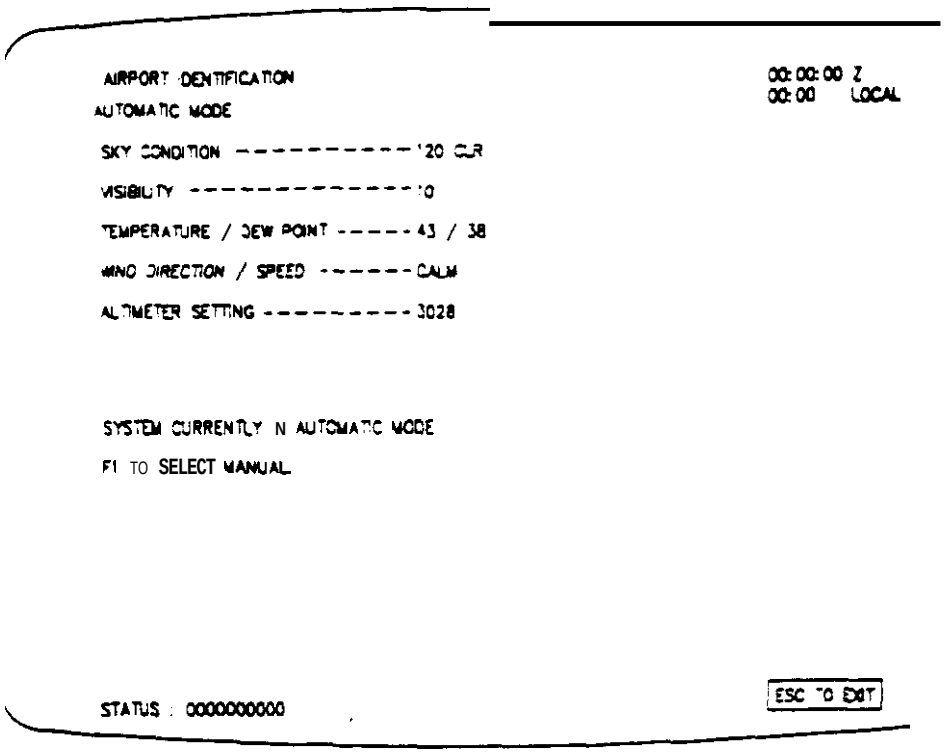

FIGURE 6-18
SYSTEM MODE FUNCTION

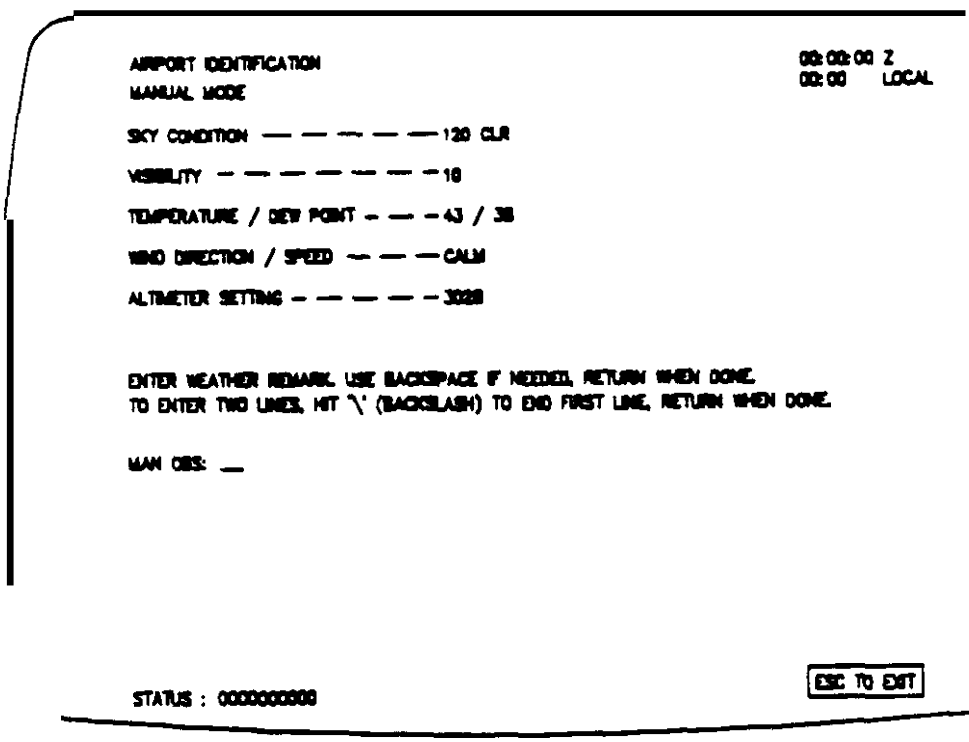

FIGURE 6-19
ENTER MANUAL OBSERVATION FUNCTION

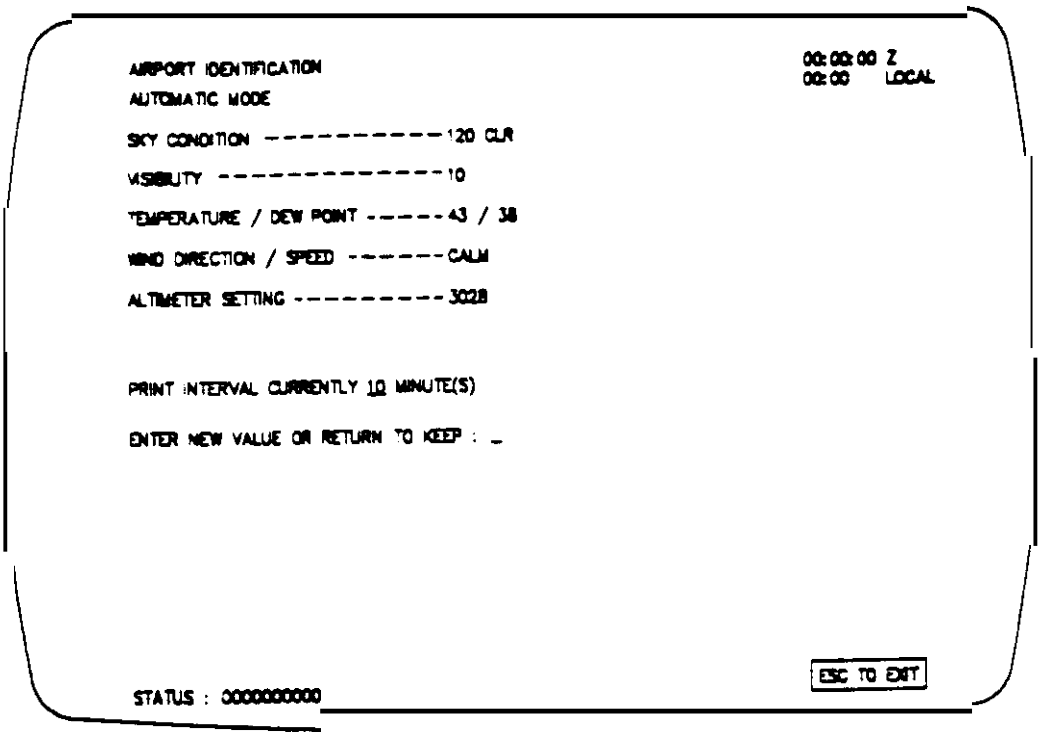

FiGURE 6-20
PRINT INTERVAL SCREEN OPTION

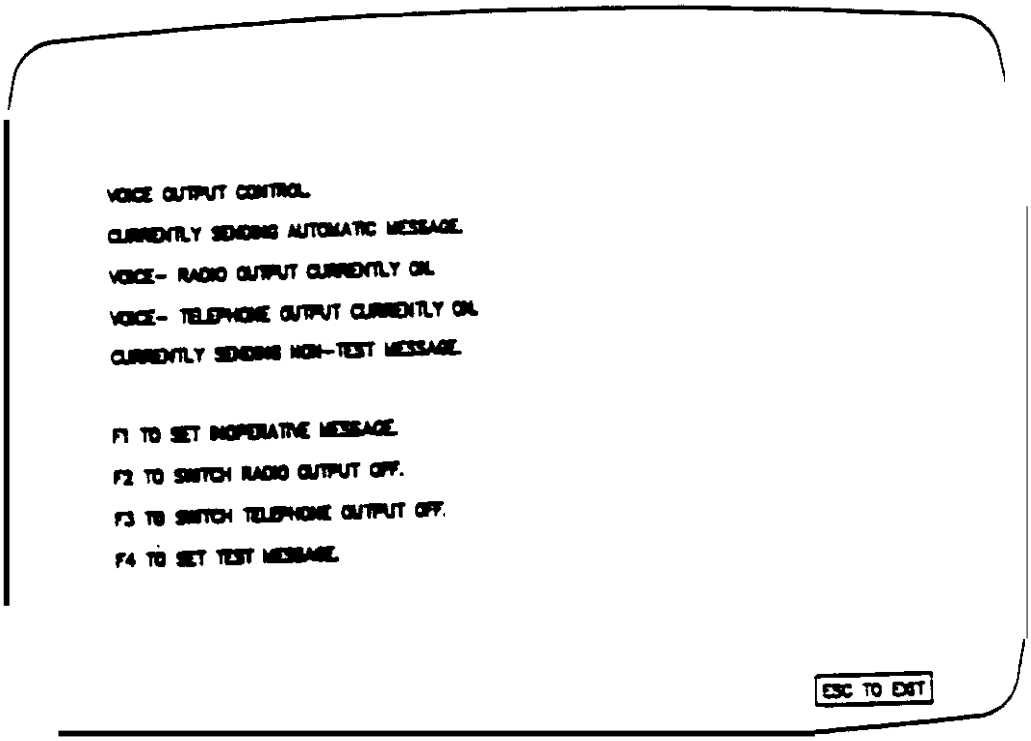

FIGURE 6-21
VOICE OUTPUT CONTROL FUNCTION

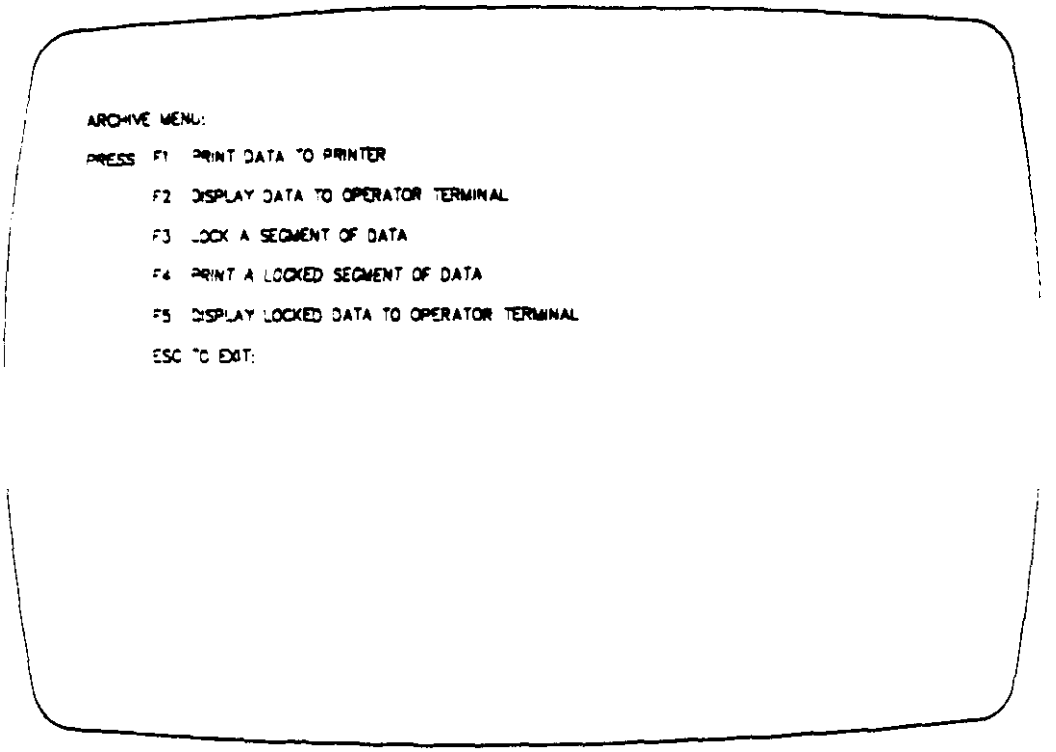

FIGURE 6-22
ARCHIVE MENU

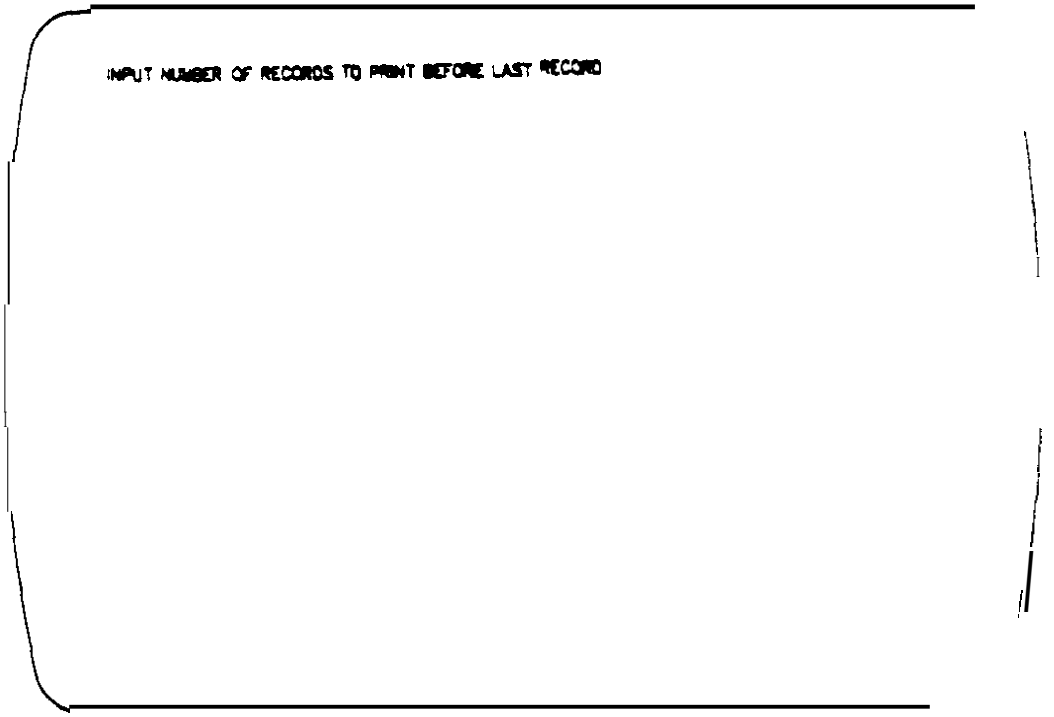

FIGURE 6-23
PRINT ARCHIVE DATA

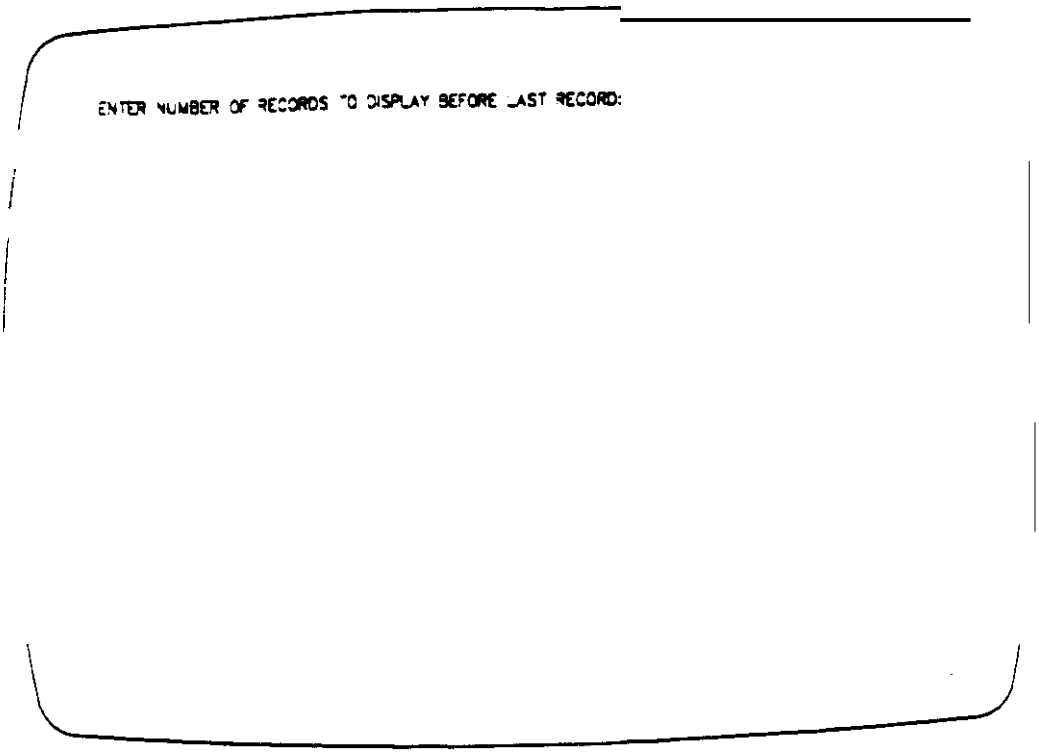

FIGURE 6-24
DISPLAY ARCHIVE DATA

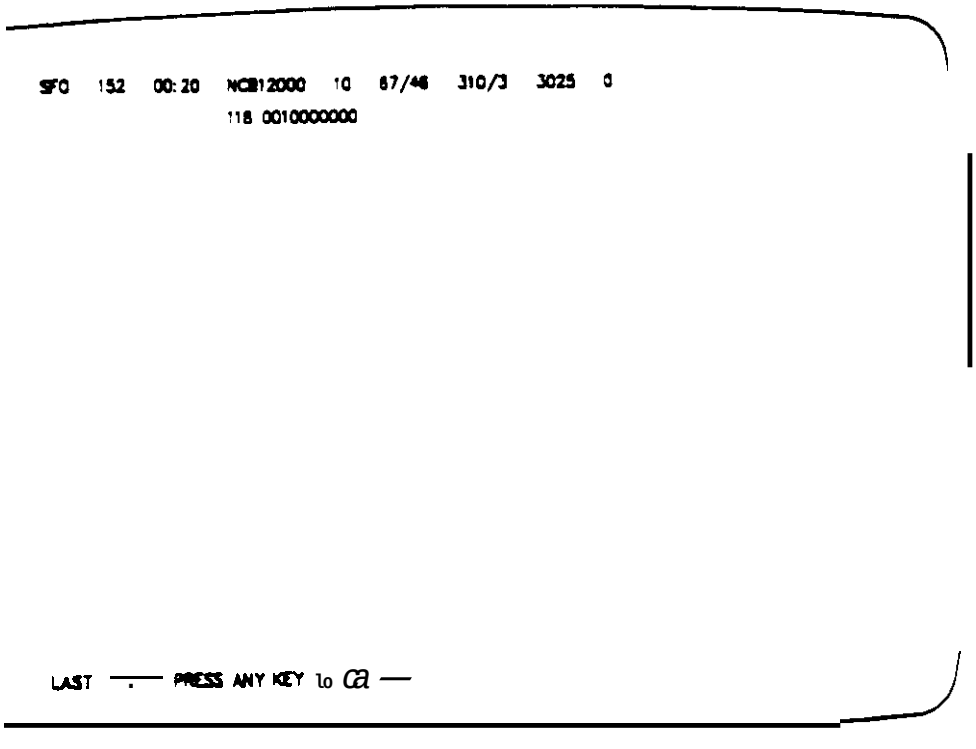

FIGURE 6-25
ARCHIVE DATA

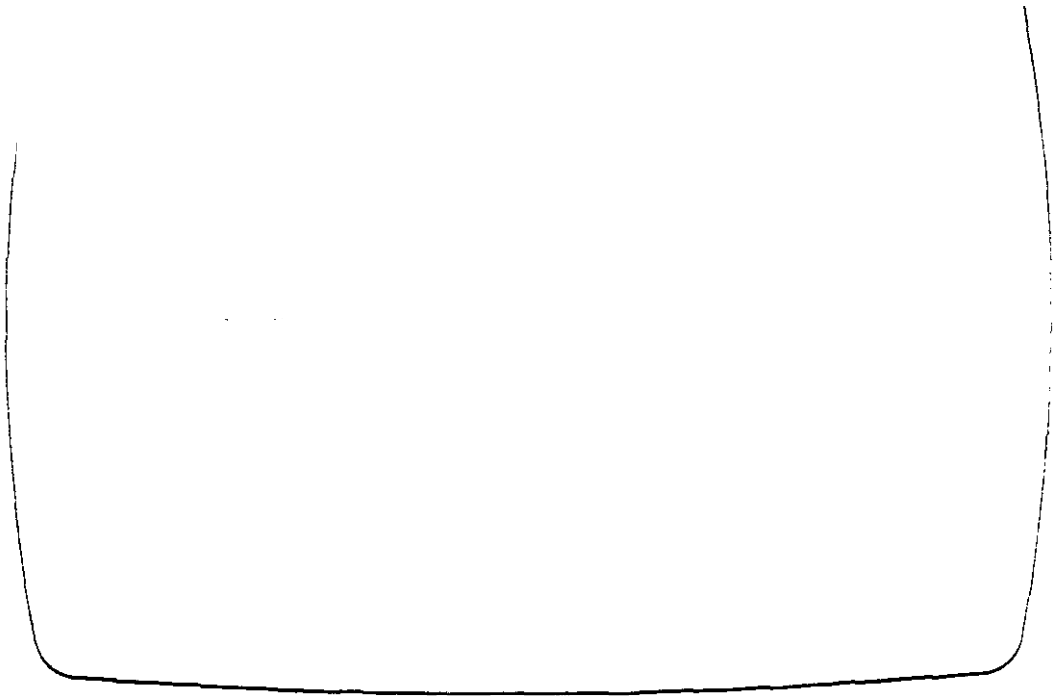

FIGURE 6-26
LCCK ARCHIVE SEGMENT

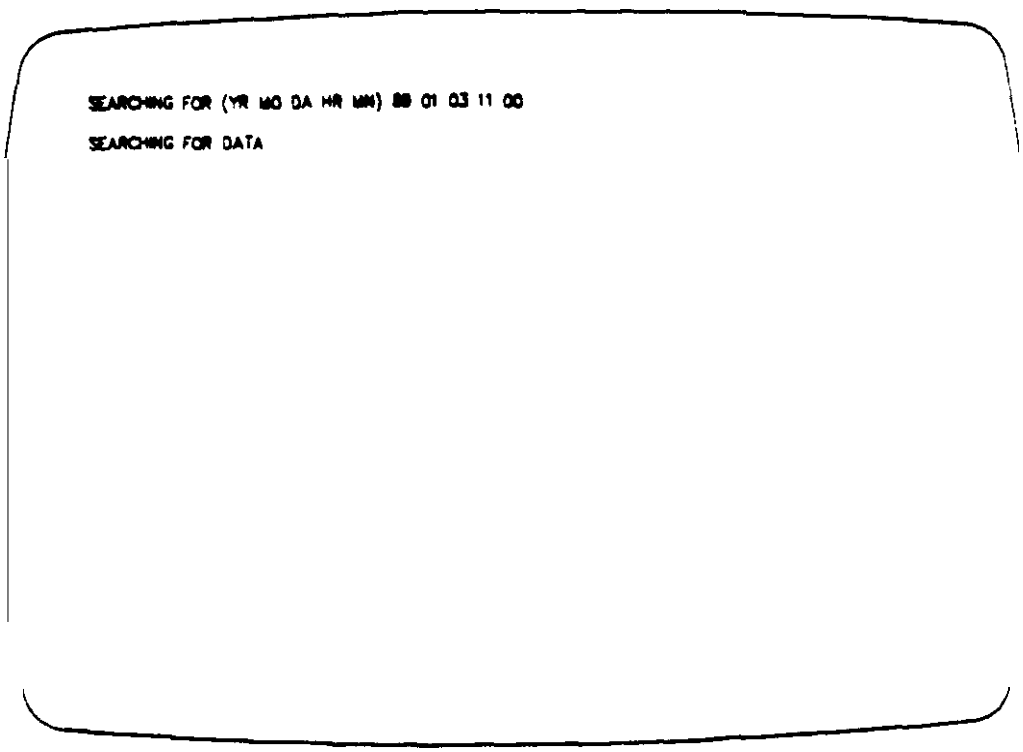

FiGURE 6-27
ARCHIVE SEARCH

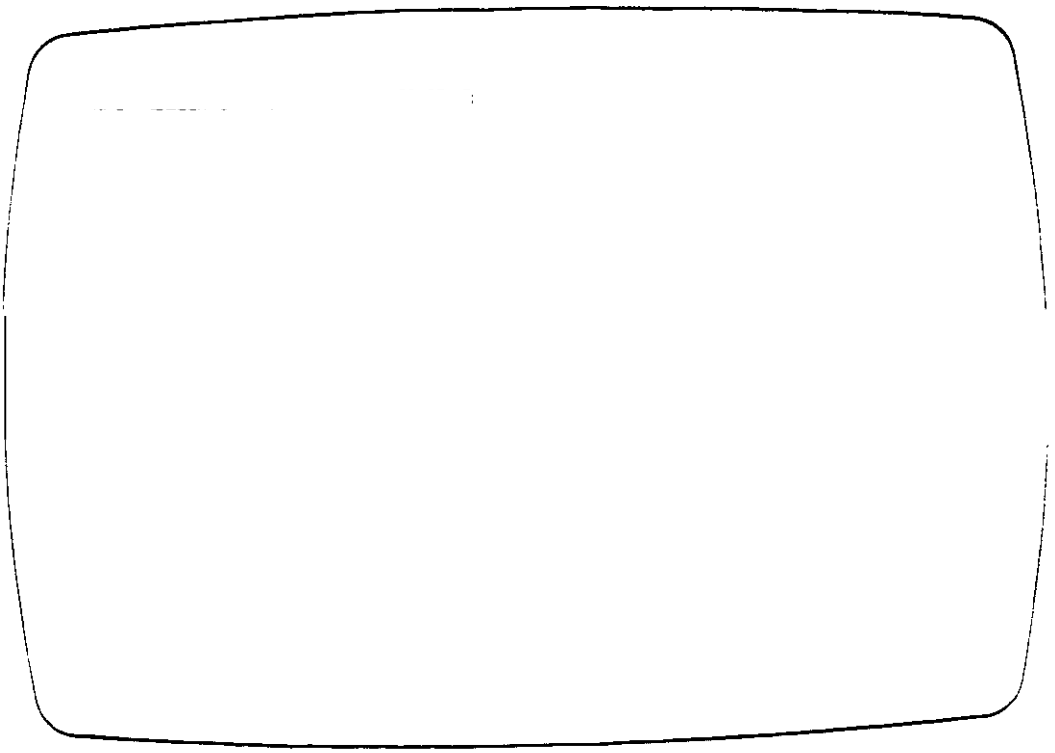

FIGURE 6-28
PRINT LOCKED SEGMENT

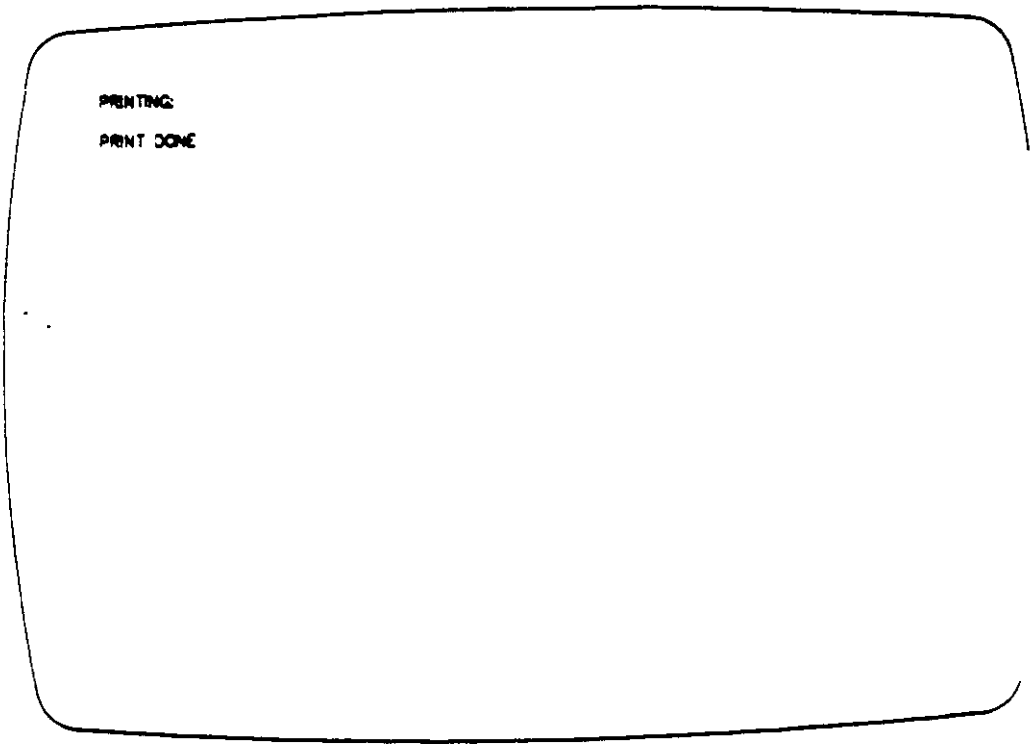

FIGURE 6-29
PRINTING ARCHIVE

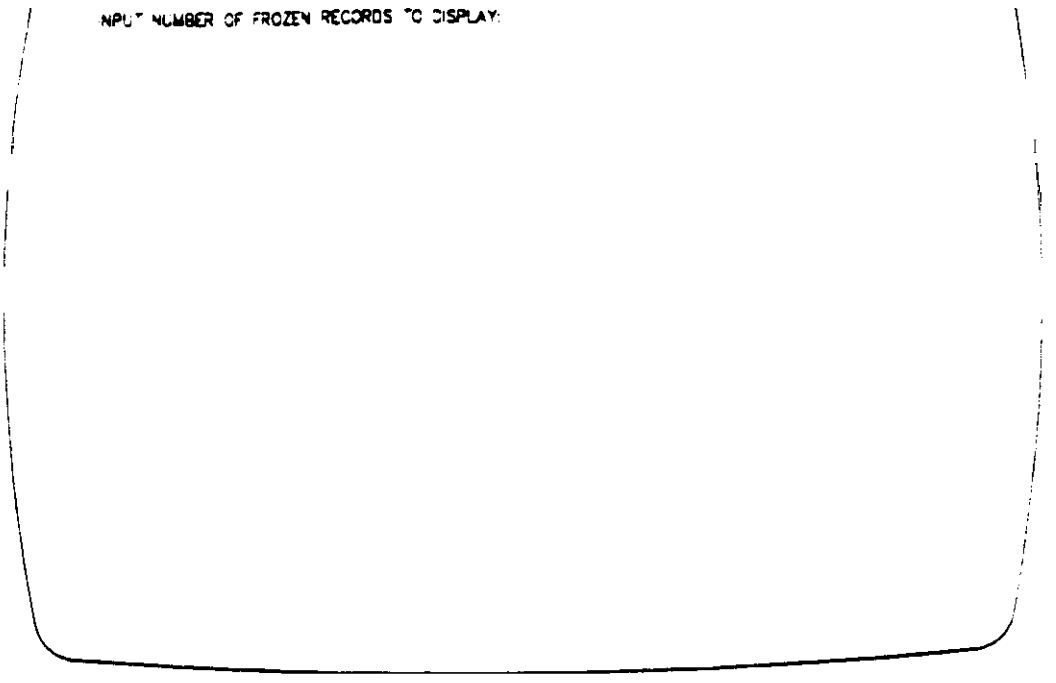

FIGURE 6-30
DISPLAY LOCKED SEGMENT

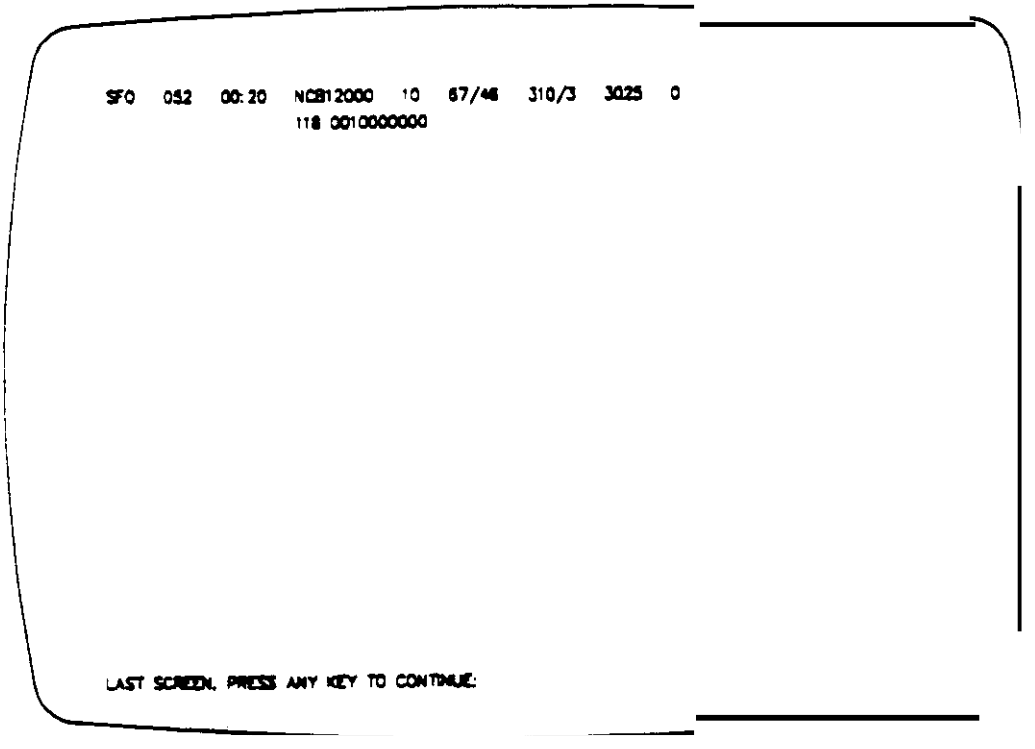

FIGURE 6-31
DISPLAY DATA